DOCUMENT RESUME

ED 149 810 JC 780 089

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TITLE Zero Base Budgeting: A New Planning Tool for New Colleges.
PUB DATE 24 Feb 78
NOTE 27p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Administrative Organization; *Budgeting; College Administration; Community Colleges; Cost Effectiveness; *Decision Making; Financial Problems; Guidelines; *Junior Colleges; *Resource Allocations; State Aid
IDENTIFIERS California; *Zero Base Budgeting

ABSTRACT

Zero-base budgeting is presented as the functional alternative to the community college funding crisis which may be precipitated by passage in June 1978 of the Jarvis Amendment (Proposition 13) in California. Defined as the management of scarce resources on a cost/benefit basis to achieve pre-determined goals, zero-base budgeting emphasizes program justification, resource allocation, objective setting, results measurement, and program evaluation. The process includes (1) defining budget units; (2) developing the decision package which includes program goals, description of planned actions, costs and benefits, workload and performance measures, alternatives for accomplishing objectives, and benefits derived from various levels of effort; and (3) ranking decision packages on the basis of priorities within each budget unit. Each higher level of administration has the authority to change the priority ranking of any lower level, to reflect the needs of the institution as a whole, which finally provides a ranking summary at the chief executive level. Examples and procedures for zero-base budgeting are included. (RT)

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Zero Base Budgeting: A New Planning Tool For New Colleges

by

Willie D. Adamson

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JC 780 089

February 24, 1978

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Chapter 1

INTRODUCTION

Although California homeowners have been demanding property tax relief for years, state legislators have only given it lip service. To this end, Proposition 13 (The Jarvis Tax Initiative) is the result of the inability of our legislators to enact meaningful property tax relief. The proposition is sponsored by the Jarvis Tax Initiative Group and will be decided in the June 6 statewide primary election. If passed, property taxes on homes, apartment buildings, stores and factories will be limited to 1% of each property's market value. Thus, the effect will be a $7 billion to $8 billion short-fall in local revenues.

The proposition has broad and strong support from homeowners. This support represents their obvious frustration and anger at our state legislators' inability to enact meaningful property tax relief. Given the lack of consensus among our legislators as to what constitutes adequate property tax relief, it is unlikely that any substantial legislative mandated relief will be passed before the June 6 primary election. Moreover, many state legislators are more concerned, at this time, with means of replacing the $7 to $8 billion short-fall in local revenues than with property tax relief. Even if legislative mandated property tax relief is provided before the June 6 election day, it would have to be comparable to the relief offered by Proposition 13 to prevent its passage.

If Proposition 13 wins voters' approval, it will become effective July 1, just 25 days after the election. The basic problem with voters' approval is not the tax relief itself. Instead, it is our inability to fully transfer the burden to other revenue sources on such short notice. Such a transfer requires deliberation, careful timing and planning. The best proposal to date has been an increase in various other taxes amounting to approximately $5.25 billion, still $2.75 billion short of the sums that Proposition 13 has taken away from local government and institutions. Assuming that our state Legislature can provide replacement funds amounting to only $5.25 billion in the interim, then there would be a chaotic disruption of essential public services.

The property tax is the largest single revenue producer for most California community colleges. Currently, a portion of this revenue is threatened by a lower leviable tax structure, Proposition 13. If Proposition 13 is enacted, then, the funding lost as a result of a lower leviable tax base will in part come from an increase in other taxes. For many community colleges this means more state support. However, the increased state support will probably be less than the funding lost as a result of a lower leviable tax base. In the interim, the chaotic effects of community colleges having to operate at levels lower than their current levels will have to be dealt with. Therefore, most community colleges would be in a state of chaos. Heads will roll. Instructional and community service programs will be cut back or eliminated.

In this era of taxpayer resistance, intense inflationary pressures, mounting pressures for more accountability, and especially as a means of coping with the planning crisis which could be caused by Proposition 13 enactment, some form of resources allocation and control mechanism must

be found for community college administrators. I believe that zero-base budgeting offers such a mechanism, giving administrators a more effective approach to budgeting which will distinguish between essential services and those of lesser importance and resources allocation.

Chapter 2

WHAT IS ZERO-BASE BUDGETING?

Zero-Base Budgeting has been described and defined in various ways since the technique was first implemented at Texas Instruments by Peter Phyrr in early 1970.[1] Two descriptions of Zero-Base Budgeting follow:

> . . . a system whereby each governmental program, regardless of whether it is a new or existing program, must be justified in its entirety each time a new budget is formulated.[2]

> . . . is a process of allocation according to projected results.[3]

Zero-Base Budgeting defined:

> . . . a comprehensive, analytically structured process that allows management to make allocation decisions. . .[4]

Zero-Base Budgeting defined on the basis of what it includes:

> . . .includes objective setting, program evaluation and operational decision making, as well as budget making. . .[5]

Zero-Base Budgeting defined on the basis of what it requires:

> . . . requires every agency. . .to identify each function it performs and the personnel and cost to the taxpayers for performing that function. . .[6]

> . . . requires each organization to evaluate and review all programs and activities (current as well as new) systematically; to review activities on a basis of output or performance as well as cost; to emphasize

> managerial decision making first, number-oriented budgets second; and to increase analysis.[7]
>
> . . . requires that each dollar in the current year's budget must fight for its survival in next year's budget.[8]

The emphasis in these descriptions and definitions on program justification, resources allocation, setting objectives, measurable results, and program evaluation do an excellent job of describing what Zero-Base Budgeting is all about, managing scarce resources on a cost/benefit basis to achieve predetermined goals. The concept of a Zero-Base Budget is not new, only the label is new. Under the term "Management By Objectives" the idea of a Zero Base Budget has been in industry and in certain parts of government for years.[9] In resource allocation decisions, the expected costs, benefits, and predetermined results should be considered together. However, writers and users of MBO have concentrated primarily on predetermined results and performance evaluation. Zero-Base Budgeting merely strengthens MBO, and focuses more attention on budgeting priorities and the development of better output measures.[10] Moreover, Zero Base Budgeting would not be possible without the transmittal of goals and objectives under a MBO system to those responsible for the preparation of the decision packages at lower management levels.[11] Therefore, Zero-Base is nothing more than budgeting by objectives.

Applicability of Zero-Base Budgeting to Educational Institutions

There are those who would question the applicability of Zero-Base Budgeting as an approach to educational management. However, they would do well to answer the following questions. The questions exert the major impact on Zero-Base Budgeting and, in turn, Zero-Base Budgeting exerts a major impact on them:

1. Is the institution people-intensive?
2. Is the institution service-oriented?
3. Is the President/Superintendent committed to the time and training required to start budgeting from the ground up?
4. Are cost determinants primarily discretionary?
5. Does the institution have a mission to perform?
6. Can priorities be established and ranked for accomplishing the goals of the institution?
7. Can the operation be planned?
8. Is the President/Superintendent committed to operating efficiently and effectively?
9. Can the institution be budgeted from the bottom to the top?
10. Can accountabilities of key personnel be pinpointed?
11. Can the efforts of all key personnel be coordinated into a whole?
12. Can controls and feedback mechanisms be established?

Zero-Base Budgeting Procedures

According to Phyrr, Zero-Base Budgeting has four basic steps:

1. Identify "budget units."
2. Analyze each discrete budget unit in a "decision package."
3. Evaluate and rank all decision packages to develop the appropriation requests.
4. Prepare the detailed operating budgets reflecting those decision packages approved in the budget appropriation.

Chapter 3

DEFINING BUDGET UNITS

A budget unit is a grouping of existing or proposed activities under a program. In Exhibit I, the program is the Division of Business and Commerce where business courses are taught. The budget units are the various academic departments. It is possible for a budget unit to be smaller than an academic department. For example, there could be established divisions within the Management Department, e.g., Hospital Management, Industrial Management, etc.).

EXHIBIT I

	Division of Business and Commerce			
	Dept. of Accounting	Dept. of Advertising Art	Dept. of Management	Program Total
Instructional Services	$ XX	$ XX	$ XX	$ XX
Support Services	XX	XX	XX	XX
	$ XX	$ XX	$ XX	$ XX

A budget unit can consist of only one distinct activity, or it may consist of a group of closely related activities. For example, the support services for the Department of Management, assuming established divisions within the department, would also support the established divisions within that department.

The Decision Package Concept

Based on the literature I have reviewed, it appears that the "decision package" is the building block of the Zero-Base concept. Phyrr defines it as "a document that indentifies and describes each budget unit in such a manner that management can (a) evaluate it and rank it against other budget units competing for funding, and (b) decide whether to approve it or disapprove it." Decision packages should be specific and detailed enough to provide management with the information it needs to evaluate each budget unit.[12] Donald N. Anderson, Budget Director at Southern California Edison says, "The package should be broken down into elements which should comprise no less than one full person and all associated costs." The components of a well developed decision package should as a minimum include:

Program goals and objectives (management by objectives)

Description of planned actions

Costs and benefits

Workload and performance measures

Alternative means of accomplishing objectives

Benefits derived from various levels of effort

The key to developing decision packages is the formulation of meaningful alternative courses of action. Phyrr offers the following steps in developing decision packages for alternative methods of accomplishing objectives:

> . . . If an alternative to the current method of doing business is chosen, the recommended way should be shown in the decision package with the current way shown as the alternative not recommended.
>
> . . . Once the best method of accomplishing the operation has been chosen from among the various alternative methods

> evaluated, a manager must identify alternative levels of effort and funding to perform that operation. Managers must establish a minimum level of effort, which must be below the current level of operation, and then identify additional levels or increments as separate decision packages.[13]

The identification and evaluation of sound alternative courses of action are the most difficult and challenging aspects of the Zero-Base Budgeting process. Of the evoked alternatives, only one is the best and most logical way of accomplishing program objectives. Since minimum levels of effort represents "business as usual" requirements, these packages are not ranked other than on a marginal basis. The decision packages for additional levels will be ranked.

Concepts of Budget Unit Service Levels

Zero Service Level - The budget unit is no longer educationally, operationally or financially feasible (e.g. some low priority programs may be eliminated if Proposition 13 is enacted).

Minimum Service Level - Any service level that is below the current level. This will be the service level if only the minimum level decision package is approved (e.g. Proposition 13 passes and there is a shortage of funds).

Current Service Level ("Maintenance Level" or Business-As-Usual) - In Zero-Base jargon, this is the minimum level, plus the number of incremental levels (decision packages) needed to bring services to the current service level.

Increased Service Level - The current service level plus one or more incremental levels (decision packages).

The Minimum Service Level represents the level below which a service should be discontinued because it loses its viability of effectiveness below that level.

An overall example: The following example of a Counseling Department for a community college illustrates the type of analysis that each budget unit and/or program manager needs to make in order to prepare decision packages. The Counseling Department provides professional services to students in clarifying basic values, attitudes, interest and abilities; all phases of decision making; formulating vocational and educational plans; identifying and resolving problems interfering with plans and progress; and identifying appropriate referral resources for more intensive personal problems. The Dean of Student Services made a two part analysis for providing counseling; first, identifying different ways of performing the service; and second, identifying different levels of effort.

1. Different ways of performing counseling services:
   a. Recommended decision package: retain ten counselors at a cost of $150,000. This is the effort required to sustain a current enrollment of 10,000 students. The expenditure will provide counseling and testing for the campus as a whole.
   b. Alternatives not recommended:
      -- Eliminate counselors and have instructors to counsel students. This approach will result in zero incremental costs for instructors, but will not be conducive to a healthy student population. Instructors are not professionally prepared to deal with emotional complications, severe feelings of depression, etc. These problems require very specialized training and psychological understanding. Instructors have exper-

tise and professional training in their disciplines only.

-- Contract counseling services out to a professional counseling organization at a cost of $175,000. The $175,000 charged by the organization exceeds the $150,000 cost for the same services provided by our own counselors and the quality of the services are equal.

The recommended way of providing counseling services was chosen over the first alternative because that alternative is not educationally and operationally feasible. Therefore, this alternative calls for a simple no vote. On the other hand, contracting for the services did not offer any additional advantages and was more expensive. Consequently, the Dean of Student Services recommended the level of 10,000 students counseled at $150,000.

The Dean of Student Services is now in a position to prepare a series of decision packages for his recommended alternative by describing different levels of effort for his chosen alternative. Each incremental decision package prepared must focus on an increased level of effort that is greater than the minimum level and must contain the incremental costs and benefits associated with each level of effort. Therefore, he completes his analysis as follows:

2. Different levels of effort of performing counseling:

   a. Counseling - Minimum Level (1 of 3): Cost - $135,000. Provide personal, educational, and vocational counseling for only 7,000 students. This level of effort covers 70% of the student population and only the most critical

components of counseling are provided.

b. Counseling - Additional Level 1 (2 of 3): Cost - $15,000 (Levels 1 + 2 = $150,000). Add back one counselor. This will enable the Counseling Department to use standardized testing instruments to facilitate important decisions made by students regarding their educational and vocational plans. This level of funding covers all essential areas of counseling.

c. Counseling - Additional Level 2 (3 of 3): Cost - $15,000 (Levels 1 + 2 + 3 = $165,000). Add one research analyst to gather, analyze and disseminate relevant information about student needs and characteristics. The information will enhance the overall effectiveness of counseling and academic divisions. Moreover, the information should be useful in evaluating progress toward institutional goals, and promoting institutional priorities.

The incremental benefits derived from adding a research analyst at Level Two cannot be quantified. It will probably be considered as a low priority decision package when competing with other packages for the same financial resources because of its subjectiveness. An illustration of the components of a decision package is shown in Exhibit II. The Exhibit displays the Minimum Level decision package prepared by the Dean of Student Services, although it omits certain details. Separate decision packages must also be prepared for each incremental level.

EXHIBIT II

DECISION PACKAGE - MINIMUM LEVEL

DEPARTMENT: Counseling MANAGER: Dean John Coed

STATEMENT OF PROGRAM GOALS:

The goals of Counseling are to teach strategies whereby individuals can learn to solve problems, make decisions, accept responsibilities, and change behavior. A second goal is to aid in increasing the effectiveness of the learning environment.

BENEFITS: This is the minimal level of counseling required to sustain an enrollment of 10,000 students.

Counselors: 9

Cost: $135,000

CONSEQUENCES OF NONAPPROVAL:

Eliminating counselors would force instructors to do counseling with zero incremental cost, but is not educationally and operationally feasible. Instructors do not have the required specialized training.

INCREMENTAL PACKAGES:

1. Add back one counselor, at $15,000. (Recommended package)
2. Add one research analyst, at $15,000.

ALTERNATIVE PACKAGE:

Contract for counseling at a cost of $175,000. This approach does not offer any additional advantages and is more expensive.

Chapter 4

DECISION PACKAGE GROUPINGS AND FORMULATION CAMPUSWIDE

The President/Superintendent may not give all administrators a free hand in selecting the subject for decision packages. This is partly due to the growing legislative, judicial and bureaucratic involvements in the administration and operation of educational institutions and mandated reporting requirements. To this end, some administrators may not understand this complex environment. Therefore, he may predefine the subject of decision packages in a chart depciting the major groupings of those packages. In Exhibit III, any item may be the subject of several decision packages.

EXHIBIT III

Decision Package Groupings

PRESIDENT/SUPERINTENDENT

Staff	Instructional Programs	Services
President	Instructional Mgmt.	Admission & Records
Accounting	Academic Support	Career Planning and Placement
Health & Safety	Division of Business & Commerce	Counseling
Graphic Communication Services	Division of Engineering Technologies	Financial Aid
Payroll Department	Division of Life & Health Sciences	Health Services
Personnel Department	Continuing Education	Student Development
Physical Plant Dept.	Extension Campuses	Library
Campus Police Dept.		
Procurement & Support Services Dept.		
Community Relations		

After breaking the organization into major groupings of decision packages, the President develops and issues a formalized set of planning assumptions on programs and service levels. For example, he is so concerned about the possible enactment of Proposition 13 in the June 6 primary election, that he has asked certain reliable sources to predict the revenue short-fall his institution will experience if the proposition is enacted. These sources have predicted an $11 million shortage of funds which is a sizable chunk out of his budget of $25 million. He is informed through his contacts in Sacramento that the state will provide $7 million of $11 million of the funds lost. However, he is still far short of the $11 million Proposition 13 has taken from his institution. At this point, he begins to focus on the relatively short notice the Jarvis Tax Initiative Group has delivered to him. The effective date of the notice is July 1, just 25 days after the election. If he waits until the election results are in and assuming the proposition passes, he is now confronted with a planning crisis. On the other hand, he can avert this crisis if he starts the planning process now. Consequently, he will be able to distinguish between essential programs and services, which must be maintained, and those of lesser importance, which could be eliminated or reduced. Therefore, he orders the preparation of a Business-As-Usual budget and a Jarvis alternative budget which would consist of a 16% reduction in revenue if Proposition 13 passes.

The foregoing is a lively illustration of what the President should include in his set of planning assumptions. Program and service level administrators need the Proposition 13 planning assumptions because they provide them with benchmarks in establishing priorities and formulating decision packages. Exhibit IV illustrates the basic formulation process as formulated by Phyrr.[14]

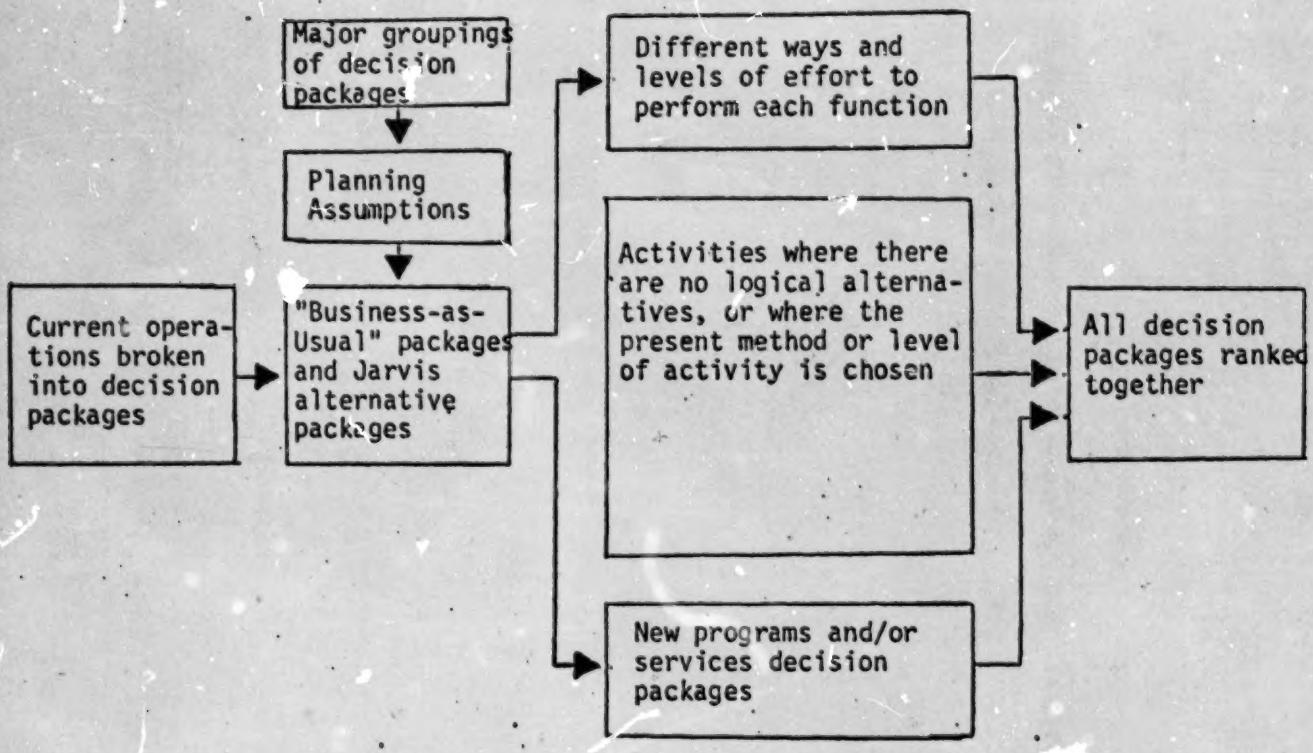
Major groupings of decision packages
Planning Assumptions
Current operations broken into decision packages
"Business-as-Usual" packages and Jarvis alternative packages
Different ways and levels of effort to perform each function
Activities where there are no logical alternatives, or where the present method or level of activity is chosen
New programs and/or services decision packages
All decision packages ranked together

EXHIBIT IV

Formulation of Decision Packages at the Lowest Program or Service Level

Chapter 5

RANKING DECISION PACKAGES

Ranking decision packages is the second most important step in applying Zero Base Budgeting. This step involves evaluating decision packages in order of decreasing benefits to the institution. The minimum level (Jarvis Level) for a budget unit is always ranked higher than any additional level for the same budget unit. As more funds are added, the budget unit will begin to move from the minimum level to the current level and will generally result in more substantial benefits. Conversely, as additional funds are added at the current level, the additional benefits will generally be fewer.

Exhibit V depicts the Dean of Student Services' final ranking of decision packages according to his own priorities and those of the institution. The packages are ranked in order of decreasing benefits. The ranking identifies the benefits to be gained at each incremental cost level and the consequences of not approving additional decision packages ranked below that incremental cost level.

If packages one through six are funded, the President would approve a budget for Counseling of $165,000 ($150,000 + $15,000). He would have funded two levels for Counseling and only the minimum levels for Health Services, Career Planning and Placement, Financial Aid, and Student Development.

EXHIBIT V

Ranking Table for The Dean of Student Services

Rank	Services	Increment Number	Incremental Cost	Cumulative Program Cost
1	Health Services	1 of 2	$ 100,000	$ 100,000
2	Counseling	1 of 3	150,000	250,000
3	Career Planning & Placement	1 of 3	125,000	375,000
4	Financial Aid	1 of 3	75,000	450,000
5	Student Development	1 of 4	50,000	500,000
6	Counseling	2 of 3	15,000	515,000
7	Financial Aid	3 of 3	20,000	535,000
8	Career Planning & Placement	2 of 3	15,000	550,000
9	Student Development	3 of 4	5,000	555,000
10	Counseling	3 of 3	15,000	570,000

Ranking the minimum level for a budget unit higher than any additional level for the same budget unit, does not mean that a minimum level package for a budget unit will be ranked higher than an incremental level package of some other budget unit. For example, the lower priority given to Student Development in the above ranking process may result into its total elimination when compared to incremental level packages of other budget units. Since resources will not be sufficient to cover all decision packages if Proposition 13 passes, the ranking of priorities will determine which packages will be funded and which will not. This approach has the advantage of allocating the institution's scarce resources more effectively.

Consolidated Ranking

As previously stated, decision packages are ranked on the basis of priorities within each budget unit. These packages and rankings are then forwarded to the next higher level of administration for consolidated rankings with packages from other budget units. Each higher level of administration has the authority to change the priority ranking of any lower level, giving them both higher and lower priority to more appropriately reflect the needs of the institution as a whole. As these decision packages journey from the bottom to the top of the institution, each review level prepares a ranking summary for the next higher level.

Consolidated review and ranking will probably work best for an institution of higher learning if the McMaster University approach is followed. At McMaster University, first the President appointed a President's Budget Advisory Committee. This committee consisted of members of the academic staff, student body, the senior executive, and financial officers. Later the deans of faculties and senior academic administrators were added to prevent the elimination of services which would harm the university's primary academic objectives.

Next, eight task force committees were established under the auspices of the President's Budget Advisory Committee. Each task force committee included the executive officer responsible for the areas under review by the task force, a senior executive officer not immediately responsible for the area, a member of the President's Budget Advisory Committee, and a dean of faculty.

The senior officer in charge of the unit being reviewed had to explain and defend his unit's financial operation. The task force committee members, not in charge of the unit, reviewed the unit from the point

of an outsider and on a more objective basis. The dean of faculty provided useful insight on the value of the service provided by the unit and on what would happen to the basic academic teaching and research programs if the unit was eliminated or substantially reduced. The task force committee examined the decision packages, considered their ranking, and then submitted a set of recommendations to the President's Budget Advisory Committee. The President's Budget Advisory Committee then consolidated the recommendations and priorities for the President.

The primary benefits accruing to McMaster University from this approach and the employment of Zero-Base Budgeting were as follow:

1. The elimination of 65 support staff positions
2. The elimination of one full department which included ten professional managers and one secretary. One half of the cost savings were used to improve the university's management information system.
3. There were seven internal delivery systems for goods and mail. One internal delivery system was implemented and the others eliminated.
4. There were people in different but interrelating departments performing the same function. This was eliminated.
5. Organizational participants gained tremendous insights into the working of the various departments and activities of the university.
6. Line managers developed a much tougher management approach.

The cost reductions at McMaster were achieved without impairing the academic and research quality of the institution.[15] Yet, Zero-Base Budgeting was very hastily implemented because the university was facing

severe financial constraints. Usually, the benefits from even a well planned Zero-Base system will not be realized so quickly. However, McMaster's positive experience with Zero-Base Budgeting should lead to its further use by more educational institutions.

Chapter 6

CONCLUSION

Zero-Base Budgeting is a powerful management tool which provides a systematic method of evaluating operations and allocating financial resources more effectively and efficiently. Moreover, it provides lower-level administrators with a mechanism for identifyirg, evaluating and justifying their program's existence. Depending on how well each administrator justifies his program, funding can be at the current level or at lower or higher levels. If an administrator fails to justify his program's existence, the sun will set on that program.[16]

The Zero-Base concept is flexible and powerful enough to deal with the planning crisis which could be caused by Proposition 13 enactment. Rather than making cuts on an across-the-board basis when the evil days arrive, a community college president should know in advance where cost cutbacks can be made. Arbitrary across-the-board cuts may have little effect on the ability of some departments to carry on; in other departments a similar cut could severely impair their ability to perform. Moreover, he must be able to distinguish between high priority programs, which must be maintained, and low priority programs, which could be eliminated or reduced.

I believe that Zero-Base Budgeting can accommodate this interim planning crisis. It facilitates the preparation of a business-as-usual budget and a Jarvis alternative budget. When the evil days arrive, the budget will not have to be recycled under Jarvis. In the meantime, the community college has all the McMaster University benefits accruing to it.

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